

UNDERSTANDING FRICTION: BUILD YOUR OWN BALLOON HOVERCRAFT

MATERIALS

- Large balloon
- Pop-up bottle top (the sort you pull up or push down to use)
- Old CD
- Double-sided foam sticky tape



When a moving surface slides on a stationary surface it rubs against it, which slows it down. This is due to friction, a force which resists the movement of one object sliding past another.

INSTRUCTIONS

- Attach the bottle top firmly to the label side of the CD.
- On the label side of the CD, attach foam sticky tape around the hole in the middle of the CD with no gaps, as shown here.
- Press the bottle top firmly down onto the sticky tape, making sure the tape seals all the way round the bottle top. Blow up the balloon, pinch its neck to stop air escaping, then ease it over the rim.
- Place the hovercraft on a smooth flat surface such as a table top and open the valve. Push the hovercraft gently and watch it skim over the surface.

OTHER EXPERIMENTS TO TRY

- Try the hovercraft on different surfaces to find out how well it goes.
- Try a larger balloon or blowing it up more to see if you can get the hovercraft to go further.
- Design your own 'air hockey' game using the balloon hovercraft.

HELPS CHILDREN TO UNDERSTAND...

How friction works.

How a hovercraft works.



LINKS TO KS2 CURRICULUM SKILLS

- Compare how things move on different surfaces
- Notice that some forces need contact between two objects
- Identify the effects of friction

PARENT TIP

The balloon hovercraft skims over the surface because it is floating on a cushion of air; this means that the two surfaces are not rubbing against each other, slowing the hovercraft down. This is the way a real hovercraft works.

Find more brilliant science model-makes for primary-school children in *Technology for Fun and Physics for Fun* by Caroline Alliston, £5 each from <http://www.technologyforfun.co.uk/>

